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Researchers Scramble To Hatch Stronger Eggs

page 15
Sec. Block Speaks Out

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PERSPECTIVES

At this writing, Congress is wrestling with various farm bill proposals, and no one can predict what will emerge. Generally, however, there's strong sentiment for retaining key features of current legislation, such as the farmer-owned reserve.

Major themes of the Administration's farm bill proposal: Less federal intrusion in the marketplace; budget restraint with reduced emphasis on direct government payments; less complexity; and stronger support for export market development and agricultural research. Within Congress, many are backing a plan to compensate producers hurt by future embargo actions.

May 15 is when Congress sets spending targets, so that's the date the agriculture committees are scheduled to report out bills for consideration by the full House and Senate. The 1977 farm act expires Sept. 30.

Meanwhile, spring planting got off to an early start, and odds are rising for a strong recovery from 1980's drought harvest. Reasons: improved moisture conditions in many areas, an estimated 2% boost in plantings, and evidence that farmers are applying more fertilizer than last year.

But weather is the big question . . . If it's favorable, crop supplies should increase enough to support larger exports and some modest stock rebuilding. For a bumper harvest, however, yields would probably have to beat 1979's records--which were well above historical trends. And many areas will need plenty of rain all season long just to match average yields.

Farm prices dropped almost 2% from February to mid-March, with declines for most major crop and livestock products. But many analysts think prices have seen their low points. Markets have now absorbed news of bumper South American corn and soybean crops. Also, these crops are selling fast, so U.S. corn and soybean prices should benefit from tightening supplies in coming months. However, weather is dominating the market, raising the likelihood of sharp price moves in both directions as the season progresses.

On the livestock side, hog producers are cutting back. Analysts expect sharp drops from year-ago output for the rest of the year. Declines in cattle slaughter should be showing up, too. Prices are expected to look a lot better when livestock marketings start to shrink--but many producers will still find themselves in a profit squeeze.

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U.S. hens are more productive than ever, but many eggs never reach their destination. Research efforts to produce stronger eggshells may hold the promise of less breakage and higher returns for producers.

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The EC—our top export market and a major trade competitor—is signing up three new members who will move the Community toward greater agricultural self-sufficiency and a stronger position as an exporter of farm products.

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In an "exclusive" for *FARMLINE* readers, Agriculture Secretary John Block discusses his overall priorities and general philosophy.

Researchers Scramble To Hatch Stronger Eggs

The average U.S. laying hen produced a record 243 *marketable* eggs last year, but the total could have been even higher—perhaps 260 per hen—if only eggs had sturdier shells.

Shell breaks are a problem and a costly one. "First of all, breakage means a direct cash loss to producers," says USDA economist Allen Baker.

"However, breakage creates all kinds of other problems as well. Appearance, for example. One broken egg in a carton can soil other eggs, causing them to be classified as 'dirties,' which reduces their market value."

"Dirties" can't be sold to consumers as edible eggs. Instead, they are diverted to "breakers," and sold at a lower price for use in processed foods.

"A more serious problem—quality deterioration and possible bacterial contamination—can leave producers or processors with a carton of eggs of little or no market value," adds Baker.

Breakage Occurs Early

The danger of breakage begins as soon as the egg leaves the hen. In fact, by some research estimates, roughly 7 percent of the nation's eggs never get out of the chicken house because the shells are inadequately formed or too fragile for the collection process.

Today's high volume production is largely mechanized and some researchers say this has probably increased the breakage problem. Fragile shells aren't likely to make it through the mechanical gathering, washing, and packing process of modern assembly-line egg production operations.

Studies on breakage, completed in California during the early 1970's, indicated anywhere from 2.3 to 11.8 percent of eggs were cracked or smashed en route from the nest to the carton. Most breakage (71 percent) had already occurred during the initial transport, while the rest took place during other mechanized processes—13 percent during loading, washing, and drying and 16 percent during weighing, grading, and packing.

Assessments of total egg losses caused by breakage vary widely because no national figures are collected. Within the industry, however, there seems to be a consensus that losses are greater than most current estimates indicate be-

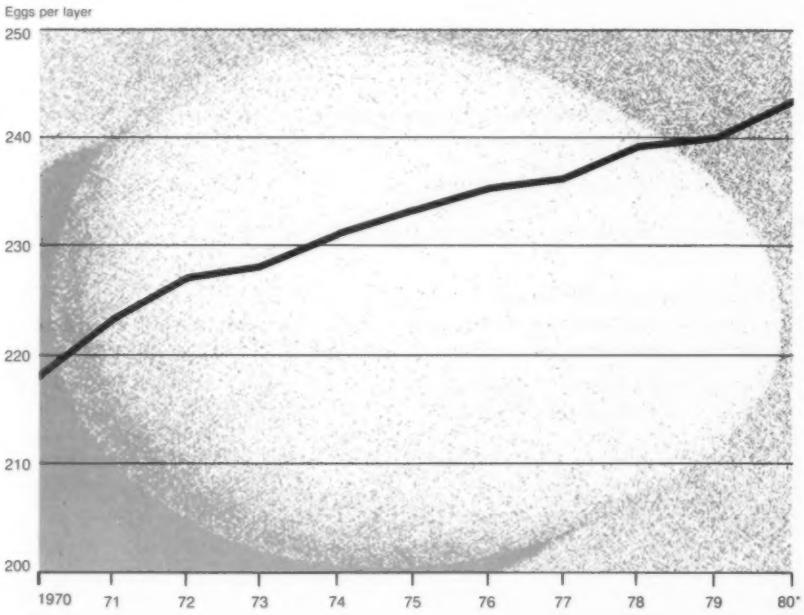
Something to Cluck About

U.S. hens laid a record 69.7 billion marketable eggs last year for food processors, groceries, hatcheries, and export markets. But hens might cluck louder about another record because all these eggs came from nearly 2½ million fewer birds than 1979's 289 million.

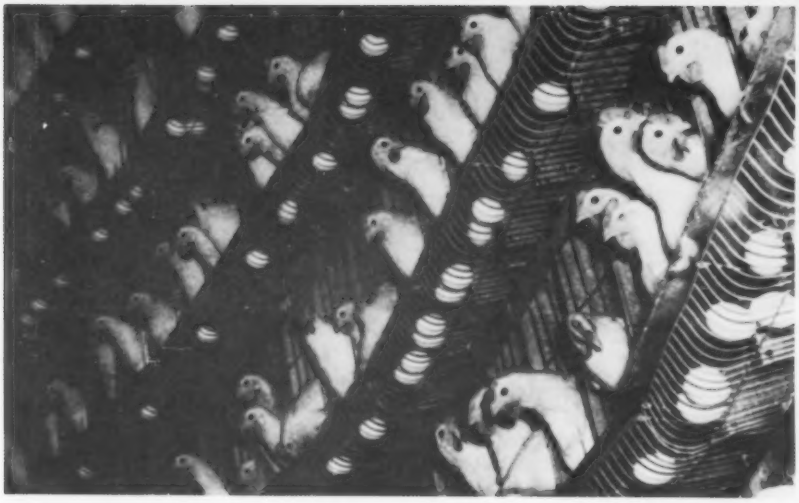
Why more eggs and fewer hens? Because the average laying hen produced 243 marketable eggs, up from the previous high of 240 in 1979. So despite the smaller flock, U.S. hens produced nearly half a billion more eggs than in 1979.

Back in the 1950's, an average hen produced only about 120 eggs per year. However, research by poultry scientists on feeding, lighting, housing, and other management practices has created a revolution in egg production.

Layer Productivity Spurred by Research, Better Management



*March 1981 estimate.



cause they don't fully account for breakage throughout the marketing chain.

For example, one industry shipper reported 8 to 10 percent losses in transporting eggs from the processing plant to the marketplace. Why? Broken egg shells and the mess they make.

A Tougher Eggshell

Just how hard would it be to make a tougher eggshell? "Difficult, but we hope not impossible," admits USDA egg expert George Mountney.

Mountney coordinates a research program dealing with eggshell quality. It's part of the state agricultural experiment station programs dealing with problems of regional or national importance. Federally funded, as well as by some state sources, the research is officially called Project S-131—"Eggshell Quality in Avian Species."

One S-131 researcher is David Roland of the poultry science department at Auburn University. Like colleagues at 14 other cooperating land-grant colleges throughout the country, Roland is experimenting—in the laboratory and with a control flock—to find ways of improving eggshell quality.

Recent findings prompted him to recommend that producers change the usual feeding time for layer hens from morning to evening, when the hen naturally starts producing calcium for eggshells.

"It occurred to me that if feed goes in the hen's body as the calcification process is beginning, all the food nutrients would go directly into the bloodstream and possibly produce a stronger eggshell," Roland says.

Research Is Adopted

Ideas of that sort quickly work themselves into practice, according to Mountney, because researchers are in constant contact and continually publish their findings. Roland's recent research will be published in detail this summer in *The Journal of Poultry Science.*

Another researcher, Joseph Soares, Jr., of the University of Maryland, is looking closely at the relationship of vitamin D to the female hormone, estrogen. "Vitamin D is changed into estrogen by the hen's body, and we have found conclusive evidence that hens with more estrogen produce stronger eggshells," says Soares.

The "thick and thin" team at Pennsylvania State University seems to have proved out Soares' theory. In experiments under the guidance of Edward Buss, selected lines of hens that produce thicker than average eggshells showed a much higher percentage of natural estrogen levels in their bodies than other breeds of hens that usually produce a thinner than normal shell. So, vitamins and hormones for hens may be part of the answer.

Other researchers are studying the influences of housing and environment, marketing channels, and disease control on the eggshell problem.

Shell Problems

The importance of solving the problem is demonstrated by the S-131 research, which indicates that 7.7 of every 100 eggs won't reach collection points because of weak or missing shells.

Roland estimates that, in addition to the 69.7 billion marketable eggs produced last year, about 5 billion unusable eggs were produced—eggs that could have brought additional retail sales of about $60 million, based on 1980 prices.

Of course, economists are quick to point out that such an increase in production might have lowered retail prices—also lowering the $60 million estimate for additional sales.

But within the industry, some producers and processors say that new markets could absorb the extra eggs without a serious blow to prices. They cite additional export possibilities, the increased demand in the processed food industry, and the increased need for eggs in fast food chains.

Producers Need Help

Sales from 5 billion additional eggs would not be chicken feed, even in the multibillion dollar egg industry.

Average returns dipped into the red for egg producers last year. They lost an average 3.2 cents at the wholesale level for every dozen eggs sold, down from a 3-cent profit per dozen in 1979.

This year, producers face cost increases for all inputs, particularly feed. In 1980, the egg-feed price ratio dropped to 6.0 (the sale of one dozen eggs would buy only 6 pounds of feed), a contrast with 1979's ratio of 6.9 and 1978's of 7.0. Early this year, economists predicted possible further drops for 1981. All producers will be looking for ways to increase their yields and run their operations more efficiently.

"It's logical," according to Dave Roland. "If we can improve eggshell quality and reduce breakage, producers could market something they already have."

The European Community: Growing into a Tougher Customer

A major international trade rival—and market—for U.S. farmers gained strength recently as Greece joined the European Community (EC).

And, when Spain and Portugal join in the next several years, the EC will move much closer toward agricultural self-sufficiency and a stronger position as an exporter of many farm products.

The additions will bring new dimensions to the EC agricultural sector. While agricultural production in the previous nine-country bloc concentrated heavily on livestock and grains, the three new countries produce more fruits, vegetables, nuts, tobacco, and other nongrain crops.

Also, the membership of Greece, Spain, and Portugal will bring a 60-percent increase in agricultural land area to the EC.

Largest U.S. Market

These developments will affect the U.S. farmer since the EC represents both the largest single market for U.S. farm products and an export rival in areas where they compete.

In fiscal 1980, U.S. farm sales to the nine-member EC totaled $9.5 billion, or nearly one-fourth of our total agricultural exports. This included $3 billion worth of soybeans, $1.2 billion of feed grains, $507 million of tobacco, $384 million of fruits and vegetables, $347 million of wheat, and $221 million of cotton.

The U.S. is also a major source of agricultural commodities for Greece, Spain, and Portugal, so their move into EC circles may have further effects for American farmers.

U.S. farm sales to Spain last fiscal year totaled $1.2 billion and in fiscal 1981 sales could be up as much as a third. Sales of oilseeds and grains accounted for about 80 percent of U.S. exports to Spain. Last year Spain was one of the top five importers of U.S. corn and soybeans.

Total U.S. agricultural sales to Portugal in fiscal 1980 were valued at $593 million. Coarse grains, wheat, soybeans, and sunflower seeds were the top sales items. In 1981, sales to Portugal are expected to increase by around a fourth.

Greece purchased over $270 million in U.S. farm goods last year. The leading sales items to Greece were corn and soybeans. In fiscal 1981, U.S. agricultural sales to Greece are expected to equal that amount.

Common Agricultural Policy

The bloc's Common Agricultural Policy (CAP) promotes trading of farm products among members of the community through imposing variable import levies on commodities from outside the EC. It also increases agricultural production through price supports and direct payments to growers, as well as subsidized exports.

As a result, the U.S. could possibly see fewer sales of excess farm products that the new members bring into the EC. Also, the U.S. could lose sales to the three new member countries of some farm goods in abundance within the EC-9.

Our soybean exports to the EC have been a subject of concern. Some contend EC enlargement will lead to member nations substituting olive oil for soybean oil. Greece and Spain are surplus producers of olive oil.

USDA economist Reed Friend admits this is a possibility, but he points out that olive oil is currently much more expen-

Greece Joins European Community; Spain and Portugal Next

sive than soybean oil, so some form of EC market manipulation will need to be instituted to make olive oil price competitive with soybean oil if it is to be used widely in the EC.

Tobacco Sales

Another area of concern is tobacco exports. Tobacco is the largest Greek export earner, and their addition to the EC should greatly add to that region's output. However, USDA economist Miles J. Lambert says that currently the EC takes only 25 percent of Greek tobacco exports and "this is not expected to change significantly."

According to Lambert, as much as 85 percent of Greek tobacco is "oriental." As a result, the EC market for the higher quality flue-cured U.S. tobacco should not be seriously diminished despite premiums paid to EC buyers for purchases of EC tobacco.

The biggest worry for U.S. growers lies in fruit, vegetable, and nut exports. Spain and Greece are major exporters of these items and membership in the EC could very well displace some U.S. sales in that region.

The U.S. sold $249 million worth of fruits, $135 million of vegetables, and $432 million of nuts to the EC in 1980. Sales of the three commodities in 1981 are expected to total about the same as last year.

In addition, CAP-induced increases in fruit, vegetable, and nut production could lead to increased competition from the EC in sales of these commodities to other parts of the world.

Increased Competition

Friend adds that the U.S. should also watch out for increased competition in the Middle East for poultry sales. Spain is already one of the world's largest producers of broilers, and export subsidies available under the CAP could result in Spain increasing broiler exports to the lucrative Middle Eastern market.

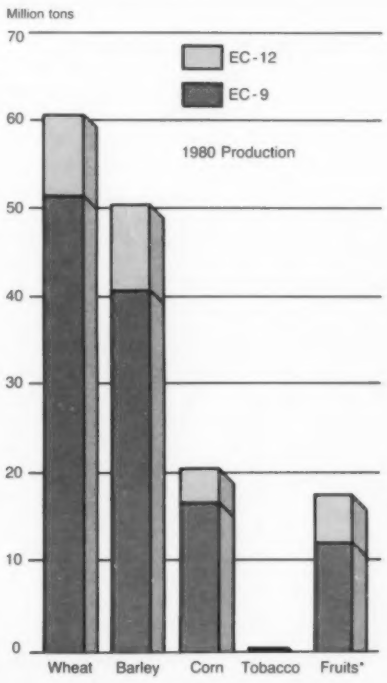
In 1980, Middle Eastern countries purchased $109 million worth of U.S. poultry, compared to $29 million in 1979. This year, sales are expected to show another large gain.

Friend notes that this increased competition will be in addition to the sales opposition the U.S. already faces from the EC in wheat sales to South America and most recently China.

USDA economist John Dunmore maintains that while the U.S. may suffer a decline in sales of a few agricultural products, "Overall there should be no dramatic shifts in U.S. trade patterns with the European Community."

He adds "The Community should remain a large market for U.S. farm products for years to come."

Enlargement Will Boost EC's Agricultural Output



*Includes apples, pears, and citrus.

It Started in Rome

The Treaty of Rome, signed in 1957 by West Germany, France, Italy, the Netherlands, Belgium, and Luxembourg, led to the formation of the European Community. Ireland, Denmark, and the United Kingdom joined in 1973.

The Treaty laid the groundwork for the integration of the economies of the member countries in order to attain both economic and political unity.

Five years later, the Common Agricultural Policy (CAP) was implemented to aid in economic integration.

Objectives of the CAP are to increase farm productivity, stabilize commodity prices, ensure a fair standard of living for farmers, and provide consumers with reasonably priced, adequate food supplies.

Essentially, the CAP is a complex system of price supports, minimum import prices, stockpiling, and export subsidies. The controls are designed to keep internal farm prices high by insulating them from foreign competition.

Community preference establishes a preferred market for EC products within the Community and protects the EC from world market price fluctuations. The Community relies on a combination of minimum import prices, variable import levies, and export subsidies to maintain Community preference.

Common pricing requires the price of any farm product to be the same throughout the EC, without any outside interference.

A third principle, common financing, means that the cost of these agricultural support mechanisms is shared by all members.

AGRICULTURAL ROUNDUP

How Honorable Are Intentions?

How closely are growers following through on their early-season intentions to plant about the same corn and soybean acreage as last year?

The answer won't come until late June when USDA issues its first estimate of actual spring-planted acreage. Until then, analysts can only speculate on how growers' final decisions are being influenced by weather, crop prices, fertilizer costs, and other factors.

When farmers were surveyed for the March 19 *Prospective Plantings* report, they intended to plant 122.3 million acres to feed grains, up less than 1 percent from last year. Seeding plans indicated 10 percent more acres to barley, while intended corn, sorghum, and oat acreage was about the same as last year.

Substantially more acres were reported for wheat, but the biggest portion of the increase is in winter wheat, which was planted last fall. Planting intentions were up for durum and down for other spring wheat.

Growers planned only a small reduction in total oilseed acreage, with virtually no change in soybeans, slightly less sunflower, and a sharp drop in flaxseed plantings. Peanut prospects were up.

Cotton acreage plans were down less than 1 percent from last year's plantings, while farmers expected to harvest about 3 percent more acres of hay.

Although the fall harvest is a long way off, plantings at these levels might indicate another year of tight feed grain and oilseed supplies—even with a strong recovery in yields. However, a number of factors will determine how much actual plantings differ from reported intentions.

Soil moisture supplies, for example, are still a concern in many areas. In winter wheat areas, many farmers will have to decide whether there's enough moisture to follow their wheat harvest with a soybean crop.

In other areas where lingering soil moisture shortages tend to favor the hardier soybean over corn, good rainfall might encourage some switching back to corn. On the other hand, soggy fields or other weather-related delays in planting could give soybeans the edge again, because they can be planted later than corn.

Fertilizer costs are another consideration for farmers who have the choice between soybeans and corn. The extra costs of fertilizer must be weighed when figuring prospective returns to corn.

For these reasons and others, actual plantings may vary considerably from early-season planting intentions.

Over the last 6 years, actual corn plantings exceeded early-spring intentions every year. On the average, farmers planted about 2 percent more acres a year than indicated by their intentions.

For durum wheat, intentions were above plantings three times, below twice, and on the mark once since 1975. Plantings and intentions are equal when all these differences were averaged out. Plantings of other spring wheat exceeded intentions in all of the last 6 years. The average difference was around 800,000 acres.

Soybean intentions were less than actual plantings four times and more twice. On the average, plantings exceeded intentions by about 800,000 acres a year. Cotton seedings exceeded intentions twice, fell below 3 times, and matched once. Plantings averaged about 50,000 acres below intentions.

USDA's first estimate of actual plantings to corn, soybeans, spring wheat, cotton, and other spring-planted crops will be issued on June 29. Forecasts of yields and production will follow on July 10.

Farmers Plan Little Change in Corn, Soybean Acres

	1979 plantings	1980 plantings	1981 intentions[1]	1980 to 1981
	million acres			*percent change*
Feed grains	118.7	121.6	122.3	+1
All corn	81.4	84.1	84.0	0
All sorghum	15.3	15.9	15.7	-1
Oats	14.0	13.4	13.5	+1
Barley	8.1	8.3	9.1	+10
Food grains	74.3	83.8	90.6	+8
Winter wheat	51.8	57.4	63.9	+11
Durum	4.0	5.5	6.1	+11
Other spring wheat	15.6	17.5	17.0	-3
Rice	2.9	3.4	3.5	+4
Oilseeds	79.7	76.4	76.0	-1
Soybeans	71.6	70.1	69.8	0
Sunflower	5.6	4.0	3.9	-3
Peanuts	1.5	1.5	1.6	+4
Flaxseed	0.9	0.8	0.7	-18
Cotton	14.0	14.6	14.5	-1
Hay[2]	61.7	59.4	61.1	+3

[1] Intended 1981 plantings, except for winter wheat seedings which were published on Dec. 23, 1980, in the *Small Grains* report. [2] Area harvested.

Rural Incomes on Catchup Path

Rural areas took a positive step ahead in the 1970's with a faster growth rate for personal incomes.

USDA economist Herman Bluestone reports that total personal income in rural counties grew 17 percent faster than in metro areas during 1968-78, narrowing the gap between nonmetro and metro incomes that had been widening for decades.

While nonmetro income grew faster in every major region, the edge was greatest in the northeast, followed by the west, north central states, and the south.

The income revival in rural areas has received less publicity than the increase in population growth, but it is just as significant. After adjusting for inflation, per capita income in nonmetro areas increased $1,753 between 1968 and 1978, compared with a $1,708 increase in cities and suburbs.

However, average nonmetro income per person, at about $6,500 in 1978, still fell short of metro income by about $1,900.

Why was rural income growth so strong? For one thing, there was a big increase over the last decade in income from such sources as

Social Security, food stamps, aid to families with dependent children, and veterans' benefits. Such income, known as transfer payments, tripled in rural areas between 1968 and 1978.

Another reason was the rapidly growing demand for energy, which boosted earnings in the primarily rural mining industry by almost 300 percent during the 1970's.

Gains in manufacturing payrolls also strengthened rural and small-town incomes. Earnings in manufacturing rose 43 percent faster in nonmetro than in metro counties.

Jumbo Hoppers Take Over Rails

Forty-foot boxcars—once the prime movers of American grain—are fast fading into the past. Most railroads have switched to jumbo covered hopper cars.

Jumbo hoppers are loaded from the top and can carry 100 tons of grain. Boxcars carry a maximum of 60 tons and have higher per-car maintenance costs to prepare them for grain handling (installing special grain doors and patching holes to prevent leakage).

The number of 40-foot boxcars dropped from 107,300 in January 1977 to 47,000 last January, while railroads added an average of 17,000 new hoppers each year. Last year, more than 80 percent of all U.S. grain moved in hoppers.

Continuing additions of jumbo covered hopper cars to fleets have taken some of the heat off the rail transportation system. The larger loads carried by hopper cars more than offset the declines in the number of small, narrow-door boxcars, increasing railroads' overall grain-hauling capacity.

Farmland Loses Ground to 1980 Inflation

U.S. farm real estate values normally outpace inflation, but not last year.

Farmland prices rose an average of 9.3 percent in the 12 months ending February 1, 1981, while general inflation, as measured by the Consumer Price Index (CPI), increased about 11 percent. Thus, on a "constant-dollar" basis, the value of U.S. farm real estate declined in 1980—the first such drop in a decade.

Even before adjustment for inflation, the 1980 performance wasn't up to par. The 9.3-percent rise was the smallest in 3 years. Farmland values increased 14 percent in 1978 and 15 percent in 1979.

USDA analysts attribute the slowdown to several factors which discouraged buyers from bidding up the price of farmland:

- Net farm income fell from $31 billion in 1979 to $22 billion in 1980.
- Interest rates hit record highs in 1980, with the prime rate climbing to 20 percent in April, then dropping to 11 percent in July, and then shooting to 21.5 percent in December.
- Credit was tight during much of the year, making it difficult for many borrowers to secure loans.

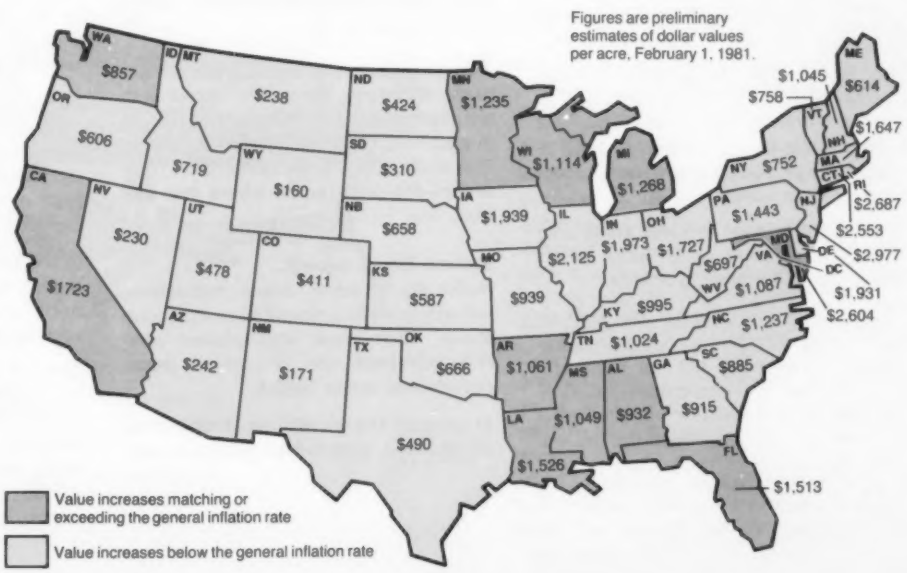
Although the inflation-adjusted value of farmland dropped nationally, 11 states showed value increases that matched or outstripped the CPI. Mississippi topped the list. During the year ending February 1, 1981, prices there rose 27 percent (more than double the CPI rise). California prices increased by 22 percent (about double the CPI). Prices in Alabama, Louisiana, and Washington grew by 18 percent (about two-thirds more than the CPI).

The average acre of U.S. farm real estate (defined as land owned by farmers) was valued at $790 when farmers were surveyed early last February. State averages per acre ran from a high of $2,977 in New Jersey to a low of $160 in Wyoming (Alaska and Hawaii were not included in the survey).

Value averages for each state are shown on the accompanying map. Because real estate owned by farmers may include forest, grazing land, bogs, or other land not under cultivation, the dollar averages for some states may not represent typical cropland values.

Fewer farm parcels changed hands in the 12 months ending last February 1 than in the preceding year.

Inflation Outpaces Farmland Values in Most States
February 1980 to February 1981



Rural America Makes a Comeback

Americans are returning to the country after 160 years of steady urbanization. In the last decade, the population in rural areas and small towns increased by 15 percent, while metropolitan areas grew by only 9 percent.

The latest U.S. population census showed that 62.8 million people lived in nonmetropolitan areas in 1980—8.3 million more than in 1970. At least 4 million of the newcomers came from cities or from abroad.

"Much of the move to rural areas also reflects a regional shift," says Calvin Beale, USDA population analyst.

"Drawn primarily by jobs—but also by the benefits of rural and small town life—several million have left the cities and suburbs of the northeast and industrialized midwest for the more rural southern and western states. For the first time, the country's population is centered west of the Mississippi River," he says.

While urban growth slowed since the 1960's, the population growth rate in rural areas accelerated.

This isn't a sign that urban areas are actually shrinking. Generally, states with the highest growth rates added people in both metropolitan and rural areas. In the south, cities grew faster than rural areas—the only region where this was true.

Slowed Urban Growth

Nationally, however, urban populations not only grew at a slower pace than rural areas. Their pace also slowed considerably from the 17-percent urban growth rate of the 1960's.

In contrast, the growth rate of rural areas accelerated, even though total U.S. population growth slowed down. In the 1960's, the nation's rural population increased by only 4.4 percent despite the higher birth rate because 2.8 million more people moved out of rural areas than moved in.

Beale emphasizes that while most rural areas showed renewed growth in the 1970's, some grew at very fast rates, while others only lost people at a slower rate than before.

A vast, thinly populated rural area in the mountain west grew by 50 percent—easily the highest rate in the country. On top of a higher birth rate there, people came for the jobs in the energy, mining, and resort industries.

In addition, the trend toward early retirement and improved pension benefits increased the ranks of retired people, many of whom chose to settle in the west. Florida's nonmetropolitan areas gained in population for the same reason.

Predominantly rural counties adjoining large urban areas also showed rapid nonmetropolitan growth, while the revival of coal mining drew people back to the coal regions of Kentucky, West Virginia, and Virginia after a population decline there in the 1960's.

Some counties showed a decline in nonmetropolitan population—most of them in the Great Plains and western Corn Belt. There, nonfarm growth wasn't high enough to balance the decline in the farm population.

In the Mississippi delta region, the continuing pattern of black migration to the north and the trend to mechanization contributed to a drop in population.

Only Rhode Island, though, showed a statewide decline in the rural population.

Interpreting the Numbers

While these population growth figures signify real changes in where people are choosing to live, they can distort or mask

more specific population trends if read too literally.

What's happening in rural counties adjoining large cities is a good example. Metropolitan areas are defined as those having urban centers of at least 50,000 people. Adjacent rural counties are counted in these areas if they have certain metropolitan characteristics of growth, urbanization, and population density, and if 15 percent or more of the workers commute to jobs in the central county. More and more of these counties are being redesignated as metropolitan as people move out from the cities and commute.

Metropolitan expansion often means more congestion, crime, and other urban problems in rural areas.

The problem is that some of these counties that technically qualify as metropolitan actually have thousands of people still living in completely rural areas and small towns.

At the same time, the population count may be inflating the number of people living in truly rural areas. Some suburban counties that are fast absorbing the urban overflow don't yet qualify as metropolitan. So what appears to be rural population growth is, in reality, urban expansion. In addition, the definition of metropolitan areas is being broadened, so some people now shown to be living in rural areas will soon be officially considered urban dwellers.

More Program Funds?

These subtleties of classification become significant when program funds are passed out. Census data help state and federal agencies distribute billions of dollars in benefits to 39,000 local jurisdictions. The growth in rural areas should bring them more seats in Congress, more money for health care and housing and community development programs, and extended credit from federal lending sources.

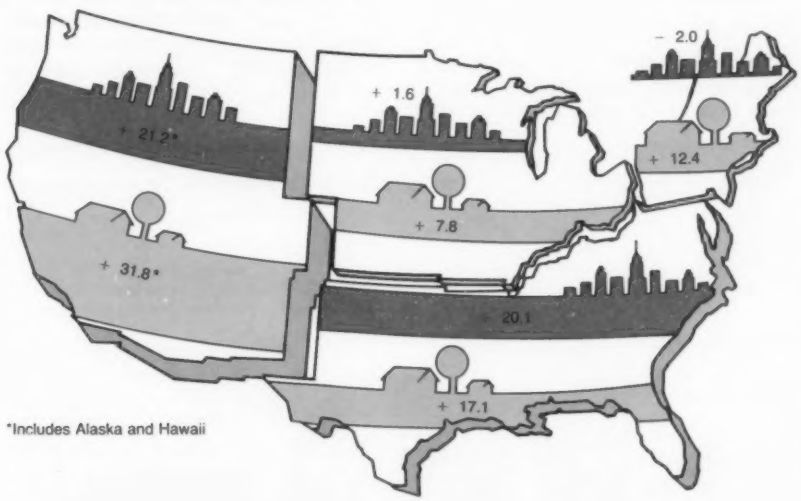
But population figures can't tell the whole story about an area's needs. A growing suburban county that is beginning to experience the problems of the city—heightened unemployment, congestion, drug and alcohol abuse, need for expanded services—may still be ineligible for the benefits a city receives because it is officially regarded as rural.

In areas of metropolitan expansion, priorities can conflict, as when the newer residents call for more spending on schools or on roads to meet their commuting needs, expenses that the older residents may not think justifiable.

The other side of the problem can occur when a county is shown to have a low population density, and funds are allocated on that basis. But the services deemed adequate for the area may not take into account the distance people have to travel to obtain those services. In this case, the locality's specific needs are not met.

These problems aren't being ignored. A study of rural community facilities, in which USDA is participating, is one attempt to find better guidelines for awarding federal funds and credit. The study should help pinpoint which services are needed by and available to rural areas.

U.S. Population Is Shifting South, West, and Rural
(Percentage Change in Population, 1970-80)



*Includes Alaska and Hawaii

All U.S.

+9.1 Metro — 1970—148.9 million; 1980—162.5 million

+15.4 Nonmetro — 1970—54.5 million; 1980—62.8 million

Total 1970—203.3 million; 1980—225.3 million

Dividing Up the Food Dollar

Slower rising food prices last year partly reflected slower rising farm prices.

Farm value—prices farmers receive for products later used for food—rose only 5.3 percent, half as much as in 1979. Depressed livestock prices, particularly in the first half of the year, take much of the blame. These developments contributed to the sharp drop in 1980 farm income.

The modest gain in farm value also had an effect at the retail level. It helped limit the overall increase in foodstore prices to 8 percent, down from more than 10 percent in each of the two previous years, according to USDA economist Denis Dunham.

However, not all of last year's restraint in retail food prices came from the farm side, Dunham notes. The farm-to-retail price spread—representing the food industry's charges for handling, processing, transporting, and retailing food—rose 8.4 percent, only two-thirds as much as in 1979.

On the other hand, prices rose sharply for fish and imported foods (farm value and the farm-to-retail price spread cover only domestically-produced farm foods). These prices jumped 11.7 percent, much faster than in 1979. Of course, this doesn't mean that fish and imports were mostly responsible for higher foodstore prices.

Putting the Pieces Together

Farm value, the farm-to-retail spread, and fish and imports each play a different role in the total food price picture. How big a role each plays depends on how much it rises and its contribution to the cost of food, Dunham explains.

For example, USDA estimates that only about one-third of consumers' foodstore spending goes back to farmers as farm value. Thus, the 5.3-percent increase in farm value last year contributed a mere 1.6 percent to the overall 8-percent rise in foodstore prices.

Far more important was the 8.4-percent runup in marketing charges. This larger farm-to-retail price spread accounted for 4.3 percent—or more than half—of the total gain in foodstore prices because marketing charges make up the biggest share of the price of most foods.

Even fish and imported foods, which represent only about a fifth of consumer food purchases, played a bigger role than farm value last year. Due to their steep 11.7-percent price climb, they added 2.1 percent to foodstore prices.

"Farm value not only showed the smallest individual increase of the three components, but it also made the smallest contribution to the overall foodstore price runup last year," Dunham notes.

To a considerable extent, the restrained rise in farm value—and consequently in retail food prices—can be traced back to developments in the farm livestock sector.

Importance of Meat

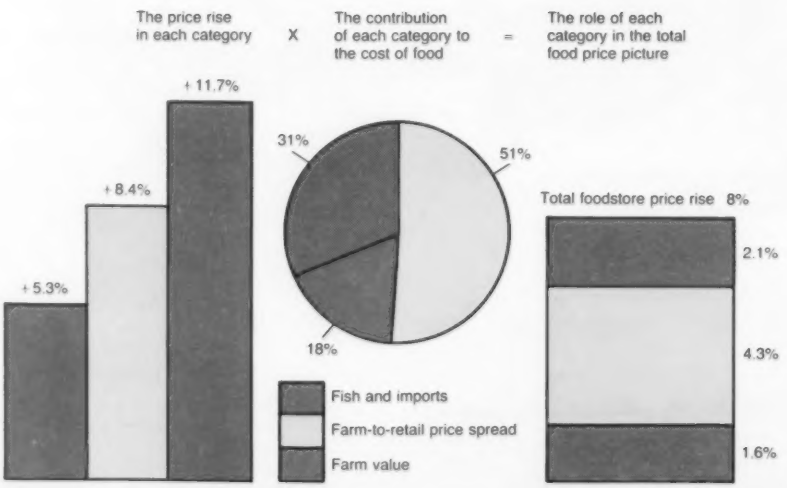
Farm prices for livestock suffered last year from larger meat supplies. Pork supplies were up 7.6 percent from 1979, and poultry supplies were up about 2 percent. And even though the amount of beef was about the same as in 1979, it was somewhat larger than it might have been had the drought not forced many ranchers to slaughter cattle they would otherwise have kept.

But why were these developments so influential in determining retail prices when there were sharp farm price increases for grains and other products? A major reason: Meat is one of the product groups in which farm value represents a relatively large share of the total retail price.

The farm value of the retail food dollar varies from one product to another based partly on how much processing the product needs to prepare it for the retail customer.

For example, the farm share is about 9 cents for each retail dollar spent on white bread (wheat only), 30 cents for each dollar spent on potatoes, 55 cents for milk, and 61 cents for beef.

Farm Value, Farm-to-Retail Price Spread, and Fish and Imports: Each Played a Role in 1980's Rise in Food Prices



Thus, a 10-percent change in the farm value of wheat may make a difference of less than 1-percent in the retail price of white bread. In contrast, a 10-percent change in the farm value of Choice beef may translate into a 6-percent price move at retail because about 61 cents of every grocery dollar spent on beef goes to the producer, Dunham says.

Mostly as a result of what happened in the farm livestock sector, retail pork prices averaged more than 3 percent lower than in 1979, and beef and poultry prices rose only about 5 percent.

The small increases in retail beef and poultry prices coupled with lower pork prices help explain the relatively small rise in total 1980 retail food prices. That's because meat accounts for such a large share—about 30 percent—of consumers' food spending.

Dividing Up the Dollars

How much did consumers spend for U.S. farm foods and what did their money pay for? That's another good way to examine the role of farm value, and particularly of marketing costs in the farm-to-retail price spread, Dunham says.

He notes, however, that these figures are for spending on domestic farm foods—excluding fish and imports—and encompass not only grocery store food purchases but also meals in restaurants and other public establishments.

Consumers' expenditures on domestic farm foods totaled $269 billion last year, up $24 billion from 1979 due to higher prices and a slightly larger quantity of food purchased. About 72 cents of each retail food dollar was spent for foods consumed at home.

Farmers received about $86 billion of the total, up $5.4 billion from 1979. About 40 percent of the farm value went to meat producers, and another 18 percent to dairy farmers.

The rest of consumers' food expenditures—$183 billion—went to pay for marketing costs. These costs were up $18.5 billion last year, accounting for three-fourths of the $24-billion increase in food spending.

Paying the Labor Bill

Labor costs for processing and marketing foods accounted for nearly 45 percent of 1980 food marketing costs. This meant that $82 billion, or 30 percent of total consumer expenditures for U.S. farm foods, went to pay the labor bill—almost as much as went to farmers.

It's a Different Story This Year

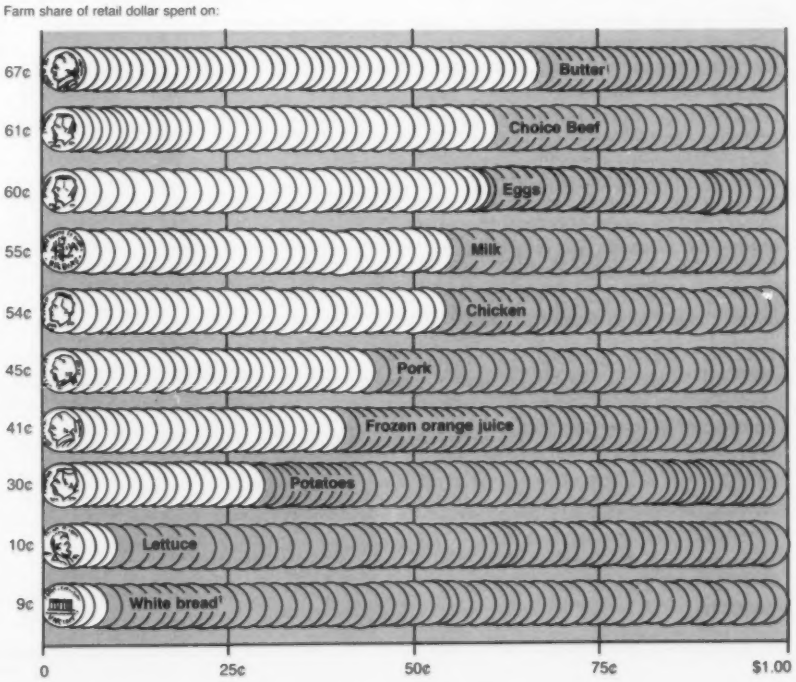
Farm value is not expected to restrain this year's retail food price rise as it did in 1980.

In fact, higher farm prices for livestock and crops will contribute substantially to a retail food price increase now forecast at 10 to 15 percent.

The payments farmers receive from retail prices are likely to rise 10 to 20 percent, compared with 1980's 5.3 percent. This means that the higher farm value may contribute around 40 percent (3 to 6 percentage points) of the retail food price runup.

In 1980, the rise in farm value was responsible for only 20 percent (1.6 percentage points) of the 8-percent hike in grocers' food prices.

The Farm Share Varies by Product



[1]Farm value of wheat only; all farm ingredients 15¢.

Labor costs, including wages and benefits for food industry employees, rose nearly 11 percent in 1980. Hourly earnings were up more than 9 percent, and benefits rose even more.

Also, more workers were on the payroll than in 1979. Over 7 million people are employed in processing and marketing farm foods. Nearly half of these work in restaurants, fast food outlets, and other eating places.

Food packaging expenses, the second largest food marketing cost, rose 16 percent last year to more than $21 billion. Intercity transportation costs also increased 16 percent to an estimated $14 billion.

The fastest rising item in the marketing bill—although still one of the smallest—was fuels and electricity.

Altogether, the costs of labor, packaging, transportation, and energy accounted for two-thirds of the marketing bill. Other costs include depreciation, rent, advertising, property taxes, repairs, and interest.

Dunham estimates before-tax food industry profits at $10.2 billion, up perhaps only $100 million from 1979. Profit margins as a percent of sales declined as the recession slowed the growth in sales and profits, while inflation boosted operating costs.

Prices Grow Faster After Food Leaves the Farm

Foodstore prices rose an average of 8.3 percent a year over the last 10 years. In seven of those years, the farm-to-retail price spread contributed more to retail price increases than either farm value or fish and imports.

Marketing charges included in the farm-to-retail spread tend to follow the overall inflation rate, partly because they reflect labor, transportation, and other costs in the general economy. On the other hand, farm value is much more volatile.

During 1973's world shortage of grains and oilseeds, for example, farm value jumped 34 percent, contributing three-fourths of the 16-percent retail food price increase.

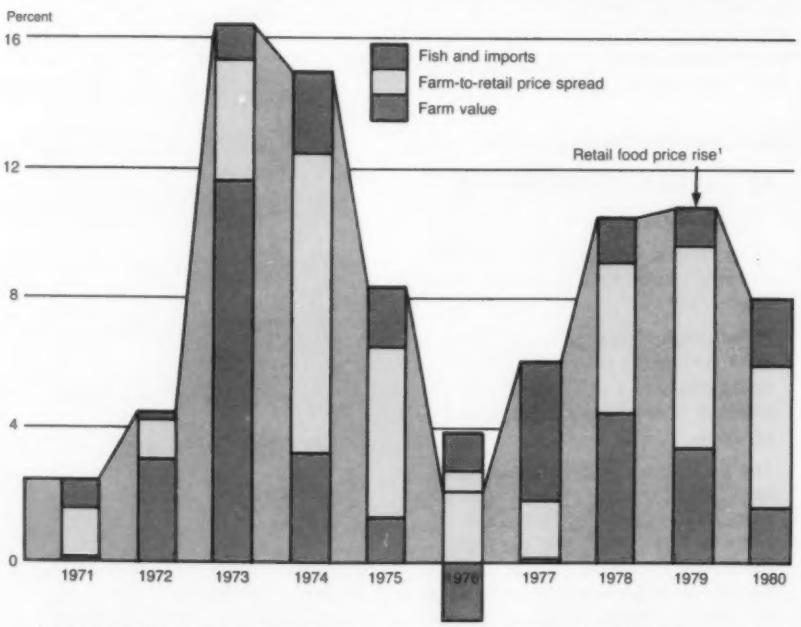
In 1976, however, farm value actually declined, reflecting very large supplies of grains and oilseeds. That year it partly offset a higher farm-to-retail spread and a rise in fish and import prices.

Farm value increased sharply again in 1978 and 1979 as meat supplies tightened. In both years, though, the farm-to-retail spread also rose substantially.

While farm value fluctuates considerably, it trends upward over the longer term because of increasing foreign demand for farm products and rising farm production expenses.

Both farm value and farm-to-retail price spread increases averaged less than 8 percent a year since 1970. In contrast, prices for fish and imported food products climbed an average of about 12 percent a year.

Farm-to-Retail Price Spread Is Usually the Biggest Contributor to Food Price Rises



¹ Includes food purchased for home consumption—not meals purchased in restaurants and similar establishments.

Block Speaks Out on Inflation and Big Government

Secretary of Agriculture John R. Block assumed office with a full calendar of items awaiting his attention—farm bill deliberations chief among them. However, he recently interrupted his schedule to answer some questions for FARMLINE readers on his overall priorities and general philosophy.

FARMLINE: What are the major problems that you see facing the American farmer today?

Block: The biggest problem is inflation. It is breaking the backs of many farmers who are not able to cope with soaring costs of inputs and high interest rates. Excessive regulation, which stifles productivity, is having a similar effect.

FARMLINE: What role do you see USDA playing in solving these problems?

Block: USDA, like other government agencies, is making every attempt to cut budgets and reduce spending in an attempt to slow government borrowing and inflation. In addition, a task force has already been appointed to review new and existing regulations to remove or modify those which are more burdensome than productive.

"The consumers of this nation are best served by a healthy, prosperous agriculture."

FARMLINE: Do you see a conflict in USDA's responsibilities to serve the interests of both farmers and consumers?

Block: No. The consumers of this nation are best served by a healthy, prosperous agriculture. Without a healthy agriculture, food supplies and prices would ultimately soar out of reach of many consumers. This would place the U.S. consumer in the same situation faced by consumers in many other nations where farmers cannot provide enough food.

FARMLINE: Preserving family farms is an economic and political concern. How do you view their survivability?

Block: Chances for long-term survival of family farms are very good if we are able to maintain a healthy agriculture, possibly through increased exports and better domestic use of farm products.

FARMLINE: As Illinois director of agriculture, you visited many of our foreign markets. What did you learn about the potential for expanding our farm exports?

Block: Other nations want to buy our products, but they are seeking a continuing, dependable supplier. We simply cannot turn exports on and off like a water faucet and hope to retain customers for our products. We must be reliable.

FARMLINE: When you mention reliability, it reminds us of something Illinois State Statistician Jim Kendall said about the Block farm. He said you were always responsive to USDA surveys. Why?

Block: Surveys are valuable to producers because they give a useful indication of the supply and demand for crops and livestock. Consequently, they help provide a better basis for farm management decisions.

FARMLINE: Now that you're the top farm policymaker, how do you think this information will help you make decisions and help farmers?

Block: With accurate supply-demand information, we can better assess the need for government programs and policies.

FARMLINE: How big a role should government play in agriculture?

Block: I feel that the federal government should stay out of the daily lives of farmers to the greatest extent possible because big government hasn't always acted in the best interests of farmers. More control should be given to state and local governments when possible.

Agriculture Secretary John Block (left) is seated next to Crop Reporting Board Chairman Jim Olson for a briefing on citrus production estimates prepared by the Crop Reporting Board.

Inflation and the Government Balancing Act

Inflation—a rise in the U.S. general price level—slashed the dollar's purchasing power 53 cents in the 1970s. At the same time, it forced up farmland prices and pressed the trend toward fewer but larger farms which has changed the structure of U.S. agriculture.

This final installment of a special, three-part FARMLINE series examines the government's role in inflation.

When a federal program comes to the aid of any group, other Americans must pay the tab through higher taxes or inflation—or both.

In recent years, this "no free lunch" truism has been affirmed by soaring inflation aggravated by government's attempts to help key constituencies without antagonizing others through tax increases or cuts of other programs.

While the government helped special constituencies, the Federal Reserve buffered the economy as a whole from shocks—such as sharp price increases for petroleum, machinery, and labor—by putting more money in circulation. Since this added money wasn't offset by increased supplies, inflation occurred.

Spreading The Burden

If the Federal Reserve had not pumped more money into the economy, the result would have been falling prices for other products, fewer machinery sales, and lower wages and lower profits for some people. In short, inflation spread the economic burden to the whole nation.

"Inflation and efforts to stop it give rise to conflicts in society," say USDA economists Paul Prentice and Lyle Schertz. "Two major legislative objectives are to enhance the economic position of diverse constituencies, and to stop inflation."

These objectives, as Schertz points out, are often at odds.

For example, some people may want greater food stamp benefits, while many farmers seek higher commodity price

supports. But to limit inflation, legislators are encouraged to freeze, cut, or eliminate such programs.

Conflict develops as each group hopes that its programs are spared while others are cut enough to bring inflation under control and to permit a tax cut.

Inflation Criteria

"Tradeoffs between assistance to constituencies and stopping inflation are complex," Prentice says. "Whether a particular food, agricultural, or rural development program is inflationary" depends on:

- Whether the program would be funded with a balanced national budget. In other words, will the program affect the amount of money in the economy?
- Its effect on supplies of goods and services available in the U.S. markets. By increasing supplies, the program soaks up excess money. If, on the other hand, it decreases supplies—such as a crop diversion program—it contributes to inflation by limiting supplies of farm products available to consumers.

The economists stress that government programs may or may not increase the amount of money in the economy:

1. Programs funded by tax revenues do not lead to more money. Money is transferred from the pocket of one person to the pocket of another within the economy.

2. If the government borrows money that would otherwise be in circulation—U.S. Savings Bonds, for example—it doesn't lead to more money initially. But if the money supply is later increased to pay the debt, the result is inflationary.

3. Government borrowing of money that would not otherwise be in circulation adds to the money supply.

"Creating more money to finance a program is inflationary," Schertz says, "unless it brings idle resources into productive use to create additional goods and services without increasing the cost of production."

Inflation Chews into Dollar's Buying Power

For example, he says, much of the inflation in the 1960's rose from the decision to finance the Vietnam conflict by increasing the money supply, instead of through offsetting taxes.

"Income redistribution, whereby tax revenues offset program expenditures, isn't inflationary. The mix of products and related prices may change, however."

For example, farm credit programs aren't inflationary if they're financed with tax revenue. Neither are food stamp programs.

Government programs, such as an estate tax forgiveness for farmers, may change the mix of benefit distribution without affecting the total money supply—if taxes to others offset the loss to the government of the amount forgiven.

By reducing their tax burden, it could help farm families without stifling production, and without adding money to circulation.

Benefits Mix Changes

Although the general U.S. price level wouldn't change, the mix of benefits in the economy would. Increased buying power of families owning farms is offset because the government must balance lost revenues by raising taxes, cutting other programs for other people, or expand the money supply to indirectly pass on costs through inflation.

As buying power shifts, demand for products changes, with possible reverberations throughout the economy. Truck sales to some farm families might increase, while automobile sales to others decrease.

In some cases, programs can be inflationary, even if they don't add to the money supply. "Programs that limit domestic supplies—such as crop diversions—are inflationary," Schertz says, "even if taxes collected cover all program expenses."

Programs can be inflationary even if they don't add to the money supply.

Funding Source Is Important

Finally, any government program—take farm credit programs as an example—may or may not be funded by increasing the amount of money in circulation. If the money supply is increased, the result is inflation.

Let's say that credit is provided to farmers by the sale of government securities to the Federal Reserve, with a resulting increase in money supply.

While farm credit programs may stimulate production to offset the flow of additional money into the economy, Schertz says this kind of program could be inflationary if:

- Production is increased only with more costly production techniques, or if the increased credit leads to bidding up the price of a limited resource such as land.
- Net production gains are impossible, so the credit only changes the mix of products and services. Farmers who get the credit bid resources, such as land, away from others.
- Farmers substitute program credit for money which they would have spent on production. The freed money then bids up prices of other goods and services.
- By chance, a credit program reduces supplies by redistributing resources from one type of production to a less efficient one. For example, loans might encourage farmers to continue to grow a crop in declining demand instead of converting to crops in higher demand.

Obviously, each individual farm program at any particular time has its own mix of inflation factors which government officials must weigh.

Dual Legislative Goals

Returning to the dual legislative goals of obtaining special government benefits while stopping inflation, farmers and other major constituencies often find inflation at the root of both goals.

A group may seek to "have its cake and eat it too" through special protection from inflation which allows them to realize the advantages of price increases but to avoid bearing any of the burdens of fighting inflation.

Such complex motives and winners-and-losers scenarios show the dilemma facing lawmakers who must weigh agricultural interests—or those of labor, business, or others—against inflation-fighting and other national priorities.

To give to one constituency, the government must take away from another.

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As a special service to *FARMLINE* readers, the three-part series on inflation and agriculture is being reprinted in a booklet entitled *Inflation and the American Farmer*.

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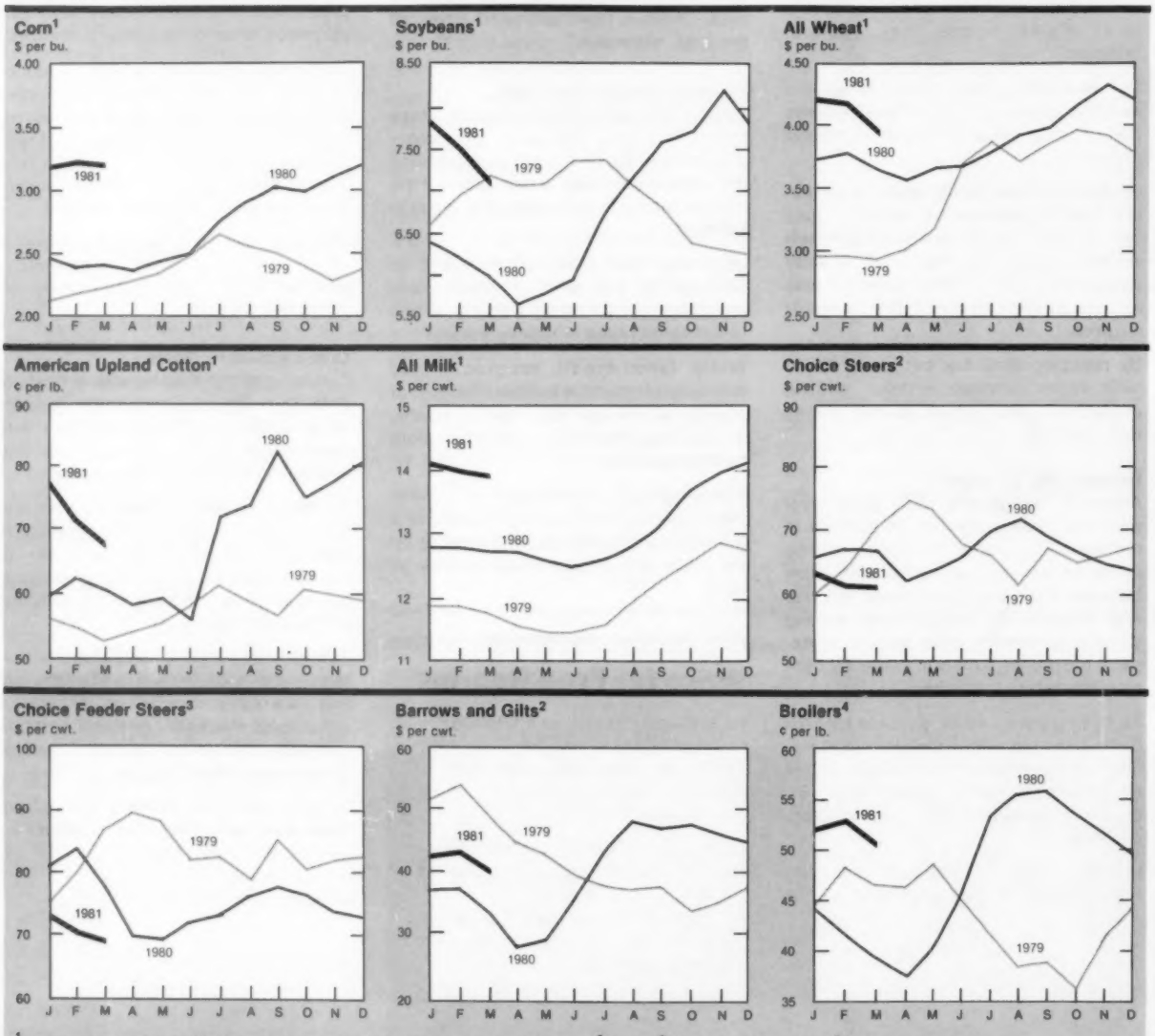
FARMLINE TRENDS

Monthly Price Monitor

U.S. average farm prices for major crop and livestock commodities fell from February to mid-March, reflecting high interest rates, large livestock marketings, and sluggish foreign demand. Most prices were still well above year-earlier figures, although Kansas City Choice feeder steers have been falling for 6 months, reaching their lowest point since November 1978. And prices for Omaha Choice steers haven't been this low since January 1979. Soybean prices dropped 40 cents, but remained $1.16 above the March 1980 price. Corn, wheat, and milk dropped slightly, while prices for cotton and Omaha barrows and gilts both fell to their lowest point since June 1980.

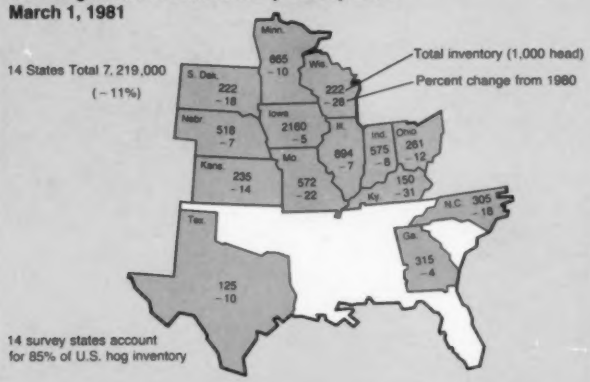


[1]U.S. average prices received by farmers. Prices for the latest month are mid-month averages. [2]Omaha. [3]600-700 lbs., Kansas City. [4]Wholesale, New York.

Producers Trim Hog Inventories

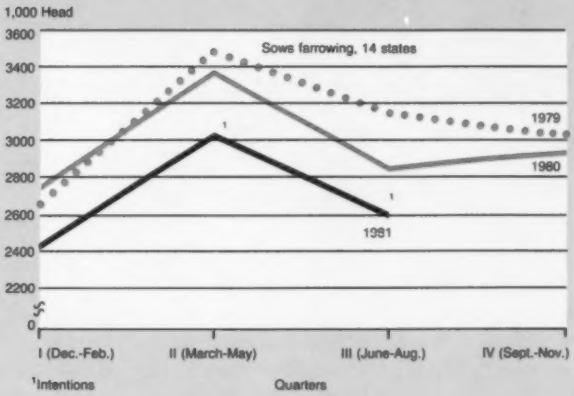
The March 1 hog and pig inventory, at 50.1 million head, was 9 percent lower than a year ago—a bigger drop than analysts had been expecting. That should help push market prices above year-earlier levels. Supplies should tighten, as breeding stock was 11 percent below last year, according to USDA's 14-state quarterly survey. In the market hog count, smaller hogs ready for market in the summer showed the biggest drop—11 percent.

Breeding Stocks Down in Every Survey State
March 1, 1981



Farrowing intentions also suggested tighter supplies ahead. Producers intend to farrow 10 percent fewer than in 1980 for the March-May 1981 period, and for the June-August period, 8 percent fewer than a year ago.

Producers Plan to Farrow Fewer Sows in 1981



[1]Intentions

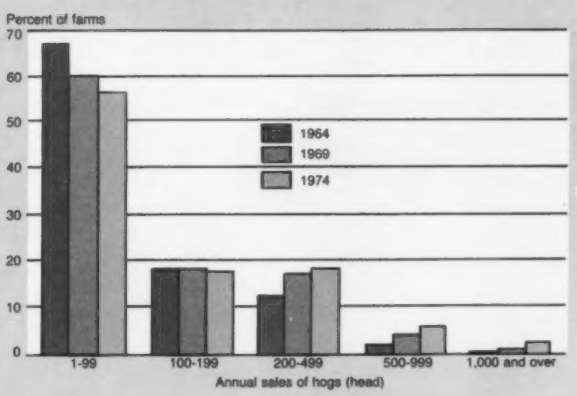
The cutback by producers, prompted by the continuing squeeze on profits since mid-1979, is expected to result in a 6-8 percent drop in pork production this year. Although prices in the 1st quarter were held to $41 by large marketings, the tighter meat supplies and reduced production in the second quarter will boost prices to around $45-$48 in the spring. Despite higher prices, producers will continue to find themselves in a profit squeeze.

Reduced Production Should Boost Prices

	1980 (quarters)		1981	
	III	IV	I	II
Production (million pounds)				
Pork	**3757**	**4250**	**4100**	**3900**
Beef	5383	5587	5570	5025
Veal	95	103	100	90
Broilers	2759	2685	2780	3000
Primary marketplace price				
Barrows & gilts ($/cwt.)	**46.23**	**46.44**	**41**	**45-48**
Choice steers ($/cwt.)	71.15	65.51	62	71-75
Broilers, wholesale (¢/cwt.)	53.3	49.9	50-52	53-55

The percent of hog operations represented by larger producers has been steadily increasing, and the trend should continue. Small producers find that the marginal income from small enterprises doesn't justify the time and expense, so they either expand or get out of the business. The rate of the trend to larger, intensive-production operations will depend on such factors as the profitability of hog production and the ability to control hog disease.

Large Operations Accounting for More of Hog Industry



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